

REMARKS

Prior to the entry of these amendments, claims 1-10 and 12-61 were pending in the application and claims 6-10, 16-18, 38-53, and 58-61 are withdrawn from consideration. In this communication, Applicants amended claims 1, 2, 5, 34 and 37 to more clearly define the invention. Applicants canceled claims 4, 11, 13-19, 22, 28, 30, 33, 40-53 and 55-61 without prejudice to the subject matter contained therein. Applicants continue to maintain withdrawn claims 6-10, 27 and 38-39.

Information Disclosure statement

The foreign references (WO) are submitted according to the provisions of 37 CFR 1.97(c) and are accompanied by the fee set forth in 1.17(p).

Specification-Disclosure

The Examiner objected to the arrangement of the specification. Applicants thank the examiner for pointing out the preferred arrangement for the specification of a utility application. Applicants amended the section headings. Applicants note that the arrangement of the specification presented in 37 CFR 1.77(b) is not a requirement but a suggested guideline. Applicants respectfully request withdrawal of the objection to the specification.

Specification-Title

Applicants amended title.

Specification-Abstract

Applicants amended the Abstract and it is in accordance with MPEP § 608.01(b).

Claim Objections

Applicants thank the examiner for noting the informalities in Claim 1, 5, 34, 55 and 57. Applicants amended claims 1, 5 and 34. Applicants canceled Claims 55 and 57 without prejudice. Applicants respectfully request withdrawal of the claim objections.

35 U.S.C. §112, first paragraph

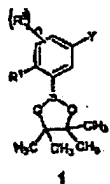
Claims 1-5, 12-15, 19-36 and 54-57 stand rejected under 35 U.S.C. §112, first paragraph as allegedly having a non-enabling specification. The Examiner argues that the specification does not enable a person skilled in the art to make the invention commensurate in scope with the claims. The Examiner argues that there is no enablement in the specification to make compounds of formula I in which R¹ is different from halogen or lower alkyl; R² is different from H or alkyl; R³ is different from H, alkyl, substituted alkyl or cycloalkyl; R⁶ is different from H, alkyl, NH₂, NMe₂ or NHC(O)R⁴; and V is different from M-R¹⁰.

Applicants respectfully disagree that the instant claims are not enabled. The test of enablement is whether one reasonably skilled in the art, following the teaching of the patent specification coupled with information known in the art at the time the patent application was filed, could make or use the invention without undue experimentation. *U.S. v. Teletronics Inc.*, 857 F.2d 778, 8 U.S.P.Q.2d 1217 (Fed. Cir. 1988). Undue experimentation is experimentation that would require a level of ingenuity beyond what is expected from one of ordinary skill in the field. *Field v. Conover*, 170 U.S.P.Q. 276, 279 (C.C.P.A. 1971). *In re Wands*, 8 U.S.P.Q.2d 1400, 1404 (Fed. Cir. 1988), and *In re Jackson*, 217 U.S.P.Q. 804, 807 (1982).

The law does not require the scope of enablement provided by the specification to mirror precisely the scope of protection sought by the claims. See *In re Fisher*, 166 U.S.P.Q. 18, 24 (C.C.P.A. 1970); see also, *In re Wright*, 27 U.S.P.Q.2d 1510 (Fed. Cir. 1993). To be enabled, all the law requires is that the scope of the enablement provided by the specification bear a "reasonable correlation" to the scope of the claims. *Id.* Moreover, even if evidence to doubt the proposed correlation exist, "the examiner must weigh the evidence for and against the correlation and decide whether one skilled in the art would accept the model as reasonably correlating to the condition". *In re Brana*, 51 F.3d 1560, 1566, 34 U.S.P.Q. 2d 1436, 1441 (Fed. Cir. 1995). A patent application, which contains a teaching of how to make and use the invention, must be taken as enabling unless there is no reason to doubt the truth of the teachings. *In re Marzocchi*, 169 U.S.P.Q. 367, 369 (C.C.P.A. 1971).

The Examiner has limited the listing of "enabled" substituents for R¹, R², R³, R⁶ and V to the substituents present in the working examples in which X is a pyrimidyl or phenyl, a limitation which resulted from a restriction requirement. Compliance with the enablement requirement of 35 U.S.C. 112, first paragraph, does not turn on whether an example is disclosed. The specification need not contain an example if the invention is otherwise disclosed in such manner that one skilled in the art will be able to practice it without an undue amount of experimentation. *In re Borkowski*, 422 F.2d 904, 908, 164 USPQ 642, 645 (CCPA 1970).

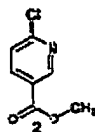
Applicants note that a general synthetic scheme has been provided for the synthesis of compound of Formula I using a Suzuki coupling reaction with the following depicted general boronic acid:



A few examples of general synthetic schemes can be found on page 20 of the application in Scheme 1 and on page 22 in Scheme 4.

An intermediate boronic acid **1** in which Y is C(O)NH-R³ or NHC(O)-R³ can be readily available from commercial sources in which R¹, R² and R³ are other than the narrow listing the examiner allowed. For instance R³ can be heterocyclyl, OR⁴, CR⁴cycloalkyl and the like.

Furthermore, Scheme 4 depicts the synthesis of a compound in which X is pyridyl and V is R¹⁴ in which R¹⁴ is an heteroaryl using the following intermediate:



Someone skilled in the art could easily use the corresponding pyrimidyl which is commercially available (2-pyrimidine carboxylic acid 2-chloro, methyl ester, RN 287714-35-6) and make the corresponding compound in which X is a pyrimidyl instead of a pyridyl and V is R¹⁴.

Based on the above comments, one skill in the art would expect that the claimed genus of compounds of formula I could be made and used in the same manner as the representative examples without undue experimentation.

To expedite prosecution, Applicants amended the definition of for R¹, R², R³, R⁶ and V without prejudice to the subject matter. Support to these amendments can be found for example on page 9 of the application, for example in the definition of heterocyclyl.

Applicants respectfully request withdrawal of the 35 U.S.C. §112, first paragraph rejection.

35 U.S.C. §112, Second paragraph

Applicant addressed the alleged indefinite rejection of the claims with the following actions:

1. Applicants replaced the phrase "pharmaceutically acceptable derivatives" with "pharmaceutically acceptable salt".
2. Applicants removed Hydrogen from R².
3. Applicants cancelled claims 22 and 56 without prejudice to the subject matter.

Applicants respectfully request withdrawal of the 35 U.S.C. §112, second paragraph rejection.

35 U.S.C. §102 Rejection

Claims 1, 12, 13, 15, 27, 32 and 54-57 stand rejected under 35 U.S.C. §102(b) as being anticipated by Tang, et al. in WO 01/094312. Claims 1-5, 12-15, 27-36 and 54-56 stand rejected under 35 U.S.C. §102(e) as being anticipated by Angell, et al. in WO 03/093248. Applicants respectfully traverse these rejections in light of the amended claims.

Applicants amended claim 1 by removing phenyl group from the definition of "X" without prejudice to the subject matter. References WO 01/094312 and WO 03/093248 fail to disclose any compounds in the present invention as claimed.

Applicants respectfully request withdrawal of the 35 U.S.C. §102 rejection.

35 U.S.C. §103 Rejection

Claims 1-5, 12-15, 27-37 and 54-56 stand rejected under 35 U.S.C. §103 as allegedly being unpatentable over Angell, et al. in WO 03/093248, in view of Patani, et al. in Chem. Rev., 96, 1996, pp 3147-3176. Applicants traverse this assertion.

The Examiner asserts that the difference between the compounds of the instant application and the compounds in Angell's application is R². R² is a methyl group in Angell's compounds. R² is hydrogen in the instant invention. Examiner asserts that according to Patani, hydrogen and methyl are bioisosteric.

Applicants amended the claim to change the variables for X. WO 03/093248 discloses and suggests compounds that require a phenyl group. WO 03/093248 in view of Patani et al. fails to disclose or suggest any compound of the present invention. A skilled artisan would not be motivated with a reasonable expectation of success to make the present invention after reading the cited prior art.

Applicants respectfully request withdrawal of the 35 U.S.C. §103 rejection.

Obviousness-type Double Patenting

Claims 1-5, 12-15, 19-37 and 54-57 stand provisionally rejected on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 1-5, 12-15, 19-37 and 54-57 of copending U.S. Application No. 10/898581. Applicants respectfully request that this rejection be held in abeyance until allowable subject matter has been identified and accepted.

Conclusion

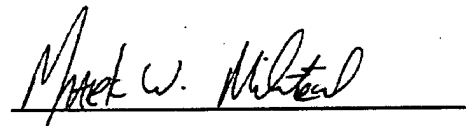
Applicants have addressed each and every issue set forth by the Examiner. Applicants respectfully submit that the claims are in good condition for allowance.

Upon allowance of a generic claim, Applicants request consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim.

Applicants request rejoinder of the method claims of commensurate scope to the composition of matter claims upon allowance of claims directed to the elected invention.

If Examiner believes for any reason that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (617)871-4125.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "Mark W. Milstead", is written over a horizontal line.

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